

REMARKS

Claims 1-17 were pending in the application. Claims 1-17 stand rejected. Claims 18-27 were added. Claims 1-27 remain in the application.

Claims 1-3, 5, 16, 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder. The rejection states:

"With respect to claim 1, Snyder teaches a personalized motion imaging system, comprising: a computer 30; a motion image display device (49 and 68) connected to the computer for displaying a motion sequence to a viewer; a camera 26 connected to the computer 30 for capturing an image of the viewer (52, the thing being viewed); and an image processing program (col. 8, lines 5-10) running on the computer for generating a real-time motion image sequence of an environment (projector 56 onto screen 62) and integrating a motion image sequence by moving the viewer 52 across the two track quide rail system depicted in Figure 1, into the computer generated motion image sequence of the environment to produce a composite motion image sequence for display of a motion image display device 49 and 68.

"What is not specifically shown is the viewer per-se. The written specification of the applicant's invention is directed to a person as the viewer who is able to see herself along with environmental information. However, the subject or object in Snyder is not a viewer but an object, an airplane to be exact. While an airplane cannot actually view anything, it is none-the-less similar to the present invention in that both the object and the environment are displayed on display device. Both the subject image and background images are moving.

"Therefore, while the airplane is not a viewer in that it has eyes to see a combined image, the airplane does serve as an object in motion which is captured in conjunction with the motion scenes of the environment. Hence, it would have been obvious to use the airplane as a viewer because it serves substantially the same purpose as a viewer and performs the same function as a viewer, i.e., combined motion images comprise one single image. Moreover, it would have been obvious to one of ordinary skill in the art to mount a camera means along side of inside of

the airplane so that it would technically qualify as a viewer in the sense that applicant uses the term."

The rejection argues that a camera means mounted to the airplane model of Synder would "technically qualify as a viewer". Claim 1 requires a camera for capturing an image of the viewer and a motion image display device for displaying a motion image sequence to a viewer. Snyder with the rejection's "camera means" does not meet this language. Assuming a camera means mounted to an airplane model could be considered a "viewer" in terms of image capture, why would such a camera also be a "viewer" of display devices? (Note also that Snyder in Figure 1 teaches display devices 49 and 68 that are pointed in the wrong direction for "viewing" by a camera in the model airplane.)

Claim 1 requires an image processing program. Snyder does not disclose or suggest an image processing program. Snyder discloses software that does not address image processing:

"The basic purpose of the system software, is to (1) enable the operator to define camera movement by specifying a set of key camera positions, (2) 'inbetween' those positions to create a smooth and continuous movement, (3) execute the smoothed movement under computer control and (4) enable the operator to operate the hardware from the keyboard." (Snyder, col. 24, lines 45-51; emphasis added)

Snyder also teaches that the system operates the same, with minor exception, using both film and video cameras. This teaches against the interpretation of Snyder proposed by the rejection. Snyder states:

"That is, the camera 26 may be replaced with a video camera which dispatches video signals to the electronic data processing equipment in the cabinet 28 without any provision for recording the image of the field of view on film. Operation of the system with a video camera of this type is identical as with a motion picture film camera with the exception that the enumerated key positions are related to specific running time intervals within an overall video recording time." (Snyder, col. 31, lines 60-68; emphasis added)

Claim 1 further requires that the image processing program running on the computer is for generating a real-time motion sequence of an environment. In other words, the motion sequence of an environment is computer

generated by the image processing program. Synder, in contrast, teaches use of a film projector and screen, in which an input/output assembly controls the advance rate of film in the projector:

"The motion picture projector 58 is coupled to the actuating input/output assembly 34. The input/output assembly 34 includes a synchronizing signal for advancing the images in the process projector 56 at a rate proportional to the rate of actuation of the film transport for the camera, depicted in FIG. 10, as specified by the camera operator using the keyboard 42." (Snyder, col. 7, lines 49-56)

In Snyder, there is no computer generated motion sequence nor a program running on the computer to make such a sequence.

Claim 1 further requires that the image processing program running on the computer is for integrating a motion image sequence of the viewer into the real-time motion sequence of an environment computer generated by the image processing program to produce a composite motion image sequence. A first motion sequence is of the viewer. A second motion sequence is computer generated and of an environment. A third, composite motion sequence is an integration of the first and second motion sequences. In Snyder, there is a movie film that is projected and a second sequence captured on film or electronically of the model against the projection screen. There is no third sequence.

Claims 2-3, 5, and 16-17 are allowable as depending from Claim 1 and as follows (in the order presented in the office action).

In relation to Claim 3, the rejection states:

"With respect to claim 3, Snyder teaches the claimed limitation in that the still image being recorded on a frame whereby 6400 frames are stored and read out at 247 cycles/sec. to produce moving images."

This rejection is not fully understood. Applicant has not located a usage of "6400" or like usages in Snyder, except in relation to the 64 kilo"words" of memory in the computer used. (See Snyder, col. 5, lines 64-66; col. 7, lines 63-67; col. 32, lines 54-56.) The term "word" is believed to correspond to the word "byte" in more modern usage. (Snyder was filed in 1979.) "Frame" storage in Snyder is on film or videotape. (Snyder, col. 4, lines 49-61)

The reference to "247 cycles/sec" is understood to be a typographical error, with the intended meaning of the standard rate of cinema film projection of 24 frames/second.

With the above in mind, the rejection is assumed to argue that Snyder teaches the production of moving images by projecting film at 24 frames per second.

Claim 3 requires generating a motion image sequence by animating a still image, not by animating a plurality of still images. Projecting movie film requires multiple images. Synder does not teach projection a single image, if it did such a projection would not be animated.

In relation to Claim 16, the office action stated:

"With respect to claim 16, Snyder teaches wherein the computer includes means (facial animation module 34) for expressing animated emotions which are not original."

Claim 16 states:

16. The system claimed in claim 3, wherein the computer includes means for expressing animated emotions not apparent in the original image of the viewer.

Claim 16 is allowable as depending from Claim 3 and as follows.

The rejection of Claim 16 is not supported by Snyder. Item 34 is "an input/output adapter assembly", not a facial animation module. (Snyder, col. 6, lines 1-2; also see Figures 2 and 6) Snyder states:

"The input/output assembly 34 is coupled to the computer 30 and includes outputs indicated collectively at 313 for performing such tasks as operating an electrical solenoid to close a mechanical shutter to optically shield the lens assembly 48 while film is being rewound. This typically occurs during double exposure sequences in filming special effects. Likewise, the input/output assembly 34 receives signals from switches in the camera 26 that indicate a broken film condition, no film magazine in the camera, and so forth." (Snyder, col. 13, line 65 to col. 14, line 6)

A facial animation model has not been found elsewhere in Snyder.

Claims 6-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder in view of Kanade. The latter reference, "Kanade", also

spelled "Kaned" elsewhere in the rejection is not otherwise identified. Applicant would request that this rejection be reprised in another office action, but it appears from the rejection that "Kanade" is directed to something other than stereo imaging. Applicant therefore requests that this rejection be withdrawn.

As to Claim 7, the rejection stated:

"With respect to claim 7, the display device 49 and 68 is monocentric and would display stereoscopic images if they were inputted to the display device. The formulation of stereoscopic images is set forth in the rejection to claim 6 above."

Claim 7 states:

7. The system claimed in claim 6, wherein the motion image display device is a monocentric autostereoscopic display device.
(emphasis added)

The rejection does not meet the definition of "autostereoscopic" provided in the U.S. Serial No. 09/738,747, now issued as U.S. Patent No. 6,416,181 B1, which was cited in the application. The specification was amended to provide this patent number.

Claims 4, 9 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder in view of Breslow.

Claims 4, 9, and 11 are allowable as depending from Claim 1.

Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder in view of Ishida.

Claim 10 is allowable as depending from Claim 1.

Claims 12-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder in view of Breslow further in view of August.

Claims 12-15 are allowable as depending from Claim 1 and, in the case of CLaim 13, from Claim 3.

Added Claim 18 states:

18. A personalized motion imaging system, comprising:
a computer;
a camera connected to the computer, said camera capturing one or more images of the viewer; and
an image processing program running on the computer,
said image processing program generating a motion image sequence of an

environment and integrating a motion image sequence of the viewer into the computer generated motion image sequence of the environment to produce a composite motion image sequence; and

a motion image display device connected to the computer, said motion image device displaying said composite motion image sequence to the viewer.

Claim 18 is supported by the application as filed, notably the original claims.

Claim 18 requires an image processing program running on the computer, which generates a motion image sequence of an environment and integrates a motion image sequence of the viewer into the computer generated motion image sequence of the environment to produce a composite motion image sequence.

Claim 18 is allowable on the grounds discussed above in relation to similar features of Claim 1.

Claims 19-20 are allowable as depending from Claim 18 and as follows.

Claim 19 states:

19. The system claimed in claim 18, wherein the motion image sequence of the viewer is generated by animating a still image captured by the camera.

Claim 19 is supported by original Claim 3 and is allowable on the same grounds.

Claim 21 states:

21. A personalized motion imaging system, comprising:
a computer;
a camera connected to the computer capturing an image of the viewer;

an image processing program running on the computer, said image processing program generating a motion image sequence of an environment and digitally compositing a motion image sequence of the viewer into the computer generated motion image sequence of the environment to produce a composite motion image sequence; and

a motion image display device connected to the computer, said motion image display device displaying said composite motion image sequence.

Claim 21 is supported and allowable on the grounds discussed above in relation to Claim 1 and the Background of the application. Claim 21 also requires an image processing program running on a computer, which digitally composites a motion image sequence of the viewer into a computer generated motion image sequence of the environment to produce a composite motion image sequence.

Claim 22 states:

22. The system of claim 21 wherein said image processing program generates said motion image sequence of an environment from a stored set of image objects.

Claim 22 is supported on the same basis as Claim 21 and at page 3, first full paragraph, and is allowable as depending from Claim 21.

Claim 23 states:

23. A personalized motion imaging method comprising the steps of:

capturing one or more images of a viewer to provide one or more viewer images;

generating a motion image sequence of an environment;
automatically compositing said viewer images with said motion image sequence of an environment to provide a composite motion image sequence;

displaying said composite motion image sequence to said viewer.

Claim 23 is supported and allowable on the same basis as Claim 1. Claim 23, notably, requires automatic compositing.

Claims 24-27 are supported by the original claims and are allowable as depending from Claim 23 and as follows.

Claim 24 states:

24. The method of claim 23 wherein said displaying is concurrent with said capturing.

Claim 24 is supported by the application as filed, notably at page 2, second paragraph of the Detailed Description.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,



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